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# ACTUARIAL ODDS SCORES FOR RETURN TO DUTY SUCCESS OF NAVY AND MARINE CORPS PERSONNEL ADMITTED TO THE PSYCHIATRIC SICK LIST

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BUREAU OF MEDICINE AND SURGERY DEPARTMENT OF THE NAVY

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Actuarial Odds Scores for Return to Duty Success of  
Navy and Marine Corps Personnel Admitted to the Psychiatric Sick List

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Actuarial Odds Scores for Return to Duty Success of  
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From the research reported in Technical Report 72-1 (Berry, Edwards, Iorio, and Gunderson, 1972) actuarial tables to be used as an assistance in making and approving recommendations from the Navy psychiatric sick list of Navy and Marine patients have been abstracted. It is emphasized that these tables should be used in a two-step decision making process: First the Clinical Tables in assessing the outcome of making a recommendation to return a patient to full duty, and then of estimating the result by use of the Administrative Tables if that recommendation is approved.

## CLINICAL ACTUARIAL TABLES

### For Recommended Disposition from the NP Sick List

Arriving at a recommended disposition of cases on the psychiatric sick list frequently presents problems to the Navy psychiatrist in charge of the case. A critical factor in determining the recommendation is adequate knowledge about the ability of a given service member to return to full duty and effectively perform his assignments for a reasonable period of time. The table of Clinical Odds Score that follows presents the probabilities that an enlisted psychiatric patient would be effective if returned to duty. These results are based on a longitudinal study at the Navy Medical Neuropsychiatric Research Unit, San Diego, of Navy and Marine Corps patients.

#### Definitions

Return to Duty (RTD): A patient was classified as RTD if a recommendation was made to return the patient to full duty without qualifications or restrictions.

NRTD. Other patients were classified as not returned to duty. NRTD includes (a) separation from active service at the time of discharge from the hospital, (b) referral to the physical disability retirement system, (c) return to duty to await administrative or disciplinary action pending at the time of admission to the hospital, (d) or return to duty with the recommendation that consideration be given to administrative separation from active service. Limited duty recommendations were not included in this study, but have been examined separately.

Effective. Effectiveness is defined as (a) completing the current enlistment and (b) being recommended for the reenlistment at the time of discharge from service.

Failure. All other outcomes were classified as failures.

## Use of the Clinical Actuarial Tables

The final disposition of each member admitted to the psychiatric sick list must be based upon the individual merits of the case, but the probabilities that a patient is a good risk (determined from the outcome of the class of other patients who were similar to him) is an important determinant. That is not to say that sound clinical evidence may not lead to the recommendation for the separation of a man from service although he may have a high Clinical Odds Score or that a man with a low probability may not be recommended for RTD. The Clinical Actuarial Odds provide guidelines to be reflected against the total clinical picture.

Factors. Three factors are required to determine a Clinical Odds Score: (1) Diagnosis, (2) Number of days the patient was on the sick list (up to the time of the final writing of his medical board or narrative summary), and (3) Navy--the number of years the man had been in the service for Navy enlisted patients and, Marines--the man's age.

Computation. Using the appropriate tables, proceed as follows:

- (1) Start with the appropriate diagnosis
- (2) Branch to the correct number of days on the sick list
- (3) Continue to follow the branch to the correct number of years in service (Navy) or age (Marines)
- (4) The odds for effectiveness score can be read opposite to the terminal branch point (Years in service--Navy, and age--Marines)

Interpretation. A patient with the characteristics used to determine the Clinical Odds Score has the determined "odds in 100" of being effective if recommended for RTD.

# NAVY

<u>Diagnosis</u>	<u>Number of Days on Sick List</u>	<u>Years in Service</u>	<u>Odds for Effectiveness</u>
Psychosis	0 - 30	15 - 40	60
		10 - 14	24
		4 - 9	11
		2 - 3	6
		0 - 1	4
	31 - 60	15 - 40	42
		10 - 14	12
		4 - 9	5
		2 - 3	2
		0 - 1	1
	61+	15 - 40	36
		10 - 14	9
		4 - 9	4
		2 - 3	1
		0 - 1	0.9

# NAVY

<u>Diagnosis</u>	<u>Number of Days on Sick List</u>	<u>Years in Service</u>	<u>Odds for Effectiveness</u>
Neurosis	0 - 30	15 - 40	79
		10 - 14	44
		4 - 9	27
		2 - 3	15
		0 - 1	11
	31 - 60	15 - 40	64
		10 - 14	28
		4 - 9	14
		2 - 3	7
		0 - 1	5
	61+	15 - 40	58
		10 - 14	23
		4 - 9	11
		2 - 3	5
		0 - 1	4

# NAVY

<u>Diagnosis</u>	<u>Number of Days on Sick List</u>	<u>Years in Service</u>	<u>Odds for Effectiveness</u>
Character and Behavior Disorder	0 - 30	15 - 40	65
		10 - 14	29
		4 - 9	15
		2 - 3	8
		0 - 1	5
	31 - 60	15 - 40	48
		10 - 14	16
		4 - 9	7
		2 - 3	3
		0 - 1	2
	61+	15 - 40	42
		10 - 14	12
		4 - 9	5
		2 - 3	2
		0 - 1	1



# NAVY

<u>Diagnosis</u>	<u>Number of Days on Sick List</u>	<u>Years in Service</u>	<u>Odds for Effectiveness</u>
Situational Maladjustment	0 - 30	15 - 40-----	98
		10 - 14-----	86
		4 - 9-----	73
		2 - 3-----	59
		0 - 1-----	52
	31 - 60	15 - 40-----	95
		10 - 14-----	75
		4 - 9-----	57
		2 - 3-----	42
		0 - 1-----	36
	61+	15 - 40-----	93
		10 - 14-----	69
		4 - 9-----	51
		2 - 3-----	36
		0 - 1-----	30

# MARINE CORPS

<u>Diagnosis</u>	<u>Age</u>	<u>Number of Days on Sick List</u>	<u>Odds for Effectiveness</u>
Psychosis	19 - 65	0 - 7	16
		8 - 14	9
		15 - 30	5
		31+	1
	17 - 18	0 - 7	6
		8 - 14	3
		15 - 30	1
		31+	0.2
Neurosis	19 - 65	0 - 7	44
		8 - 14	31
		15 - 30	21
		31+	9
	17 - 18	0 - 7	23
		8 - 14	14
		15 - 30	8
		31+	3

# MARINE CORPS

<u>Diagnosis</u>	<u>Age</u>	<u>Number of Days on Sick List</u>	<u>Odds for Effectiveness</u>
Character and Behavior Disorder	19 - 65	0 - 7 -----	24
		8 - 14 -----	15
		15 - 30 -----	8
		31+ -----	3
	17 - 18	0 - 7 -----	10
		8 - 14 -----	5
		15 - 30 -----	2
		31+ -----	0.6
Situational Maladjustment	19 - 65	0 - 7 -----	70
		8 - 14 -----	57
		15 - 30 -----	44
		31+ -----	24
	17 - 18	0 - 7 -----	48
		8 - 14 -----	34
		15 - 30 -----	23
		31+ -----	10

## ADMINISTRATIVE ACTUARIAL TABLES

### For Appraising Recommended Disposition from the NP Sick List

Approval of a recommended disposition from the sick list of psychiatric cases frequently presents unique problems. A critical factor in approving the recommendation is adequate knowledge about the ability of a given service member to return to full duty and effectively perform his assignments for a reasonable period of time. The Table of Administrative Odds Scores that follows presents the probabilities that an enlisted psychiatric patient would be an effective sailor or Marine if returned to duty. These results are based on a longitudinal study at the Navy Medical Neuropsychiatric Research Unit, San Diego, of Navy and Marine Corps psychiatric patients.

#### Definitions:

Returned to Duty (RTD). A patient was classified as RTD if returned to full duty without qualifications or restrictions.

NRTD. Other patients were classified as not returned to duty. NRTD includes (a) separation from active service at the time of discharge from the hospital, (b) referral to the physical disability retirement system, (c) return to duty to await administrative or disciplinary action pending at the time of admission to the hospital, or (d) return to duty with the recommendation that consideration be given to administrative separation from active service. Limited duty recommendations were not included in this study, but have been examined separately.

Effective. Effectiveness is defined as (a) completing the current enlistment (b) and being recommended for reenlistment at the time of completion of that enlistment.

Failure. All other outcomes were classified as failures.

## Use of the Administrative Actuarial Tables

The final disposition of each member admitted to the psychiatric sick list must be based upon the individual merits of the case, but the probabilities that a patient is a good risk (determined from the outcome of the class of other patients who were similar to him) is an important determinant. The Administrative Actuarial Odds provide guidelines to be reflected against the clinical recommendations.

### Factors

Three factors are used to determine Odds for Effectiveness for each branch of service.

Navy. (1) Pay grade of patient, (2) the patient's perception of his wife's attitude toward his being in the service, and (3) the man's disciplinary record for the last year before hospitalization.

Marines. (1) Pay grade, (2) age, and (3) the patient's previous psychiatric history.

Computation. Using the appropriate tables, proceed as follows:

- (1) Start with the pay grade
- (2) Branch to the correct attitude class for the Navy or age for the Marine Corps
- (3) Continue to follow the branch to the correct class of disciplinary record for the Navy or previous psychiatric history for the Marine Corps
- (4) The odds for effectiveness score can be read opposite to the terminal branch point

Interpretation. A patient with the characteristics used to determine the Administrative Odds Score has the determined "odds in 100" of being effective if RTD.

# NAVY

<u>Pay Grade</u>	<u>Wife's Attitude Toward Service</u>	<u>At least one Disciplinary Captain's Mast or Courts Martial</u>	<u>Odds for Effectiveness</u>
E8 - E9	Positive	No-----	99.9
		Yes-----	98
	Neutral	No-----	99.5
		Yes-----	92
	Single	No-----	95
		Yes-----	67
E6 - E7	Positive	No-----	99.5
		Yes-----	92
	Neutral	No-----	98
		Yes-----	79
	Single	No-----	84
		Yes-----	43
E3 - E5	Positive	No-----	89
		Yes-----	65
	Neutral	No-----	84
		Yes-----	43
	Single	No-----	51
		Yes-----	12
E1 - E2	Positive	No-----	72
		Yes-----	28
	Neutral	No-----	51
		Yes-----	12
	Single	No-----	17
		Yes-----	1.5

# MARINE CORPS

<u>Pay Grade</u>	<u>Age</u>	<u>Why saw Psychiatrist Previously</u>	<u>Odds for Success</u>
E6 - E9	19 - 65	All other -----	20
		More than 1 reason, or disciplinary trouble-----	5
E3 - E5	19 - 65	All other* -----	60
		More than 1 reason, or disciplinary trouble-----	30
	17 - 18	All other -----	38
		More than 1 reason, or disciplinary trouble -----	13
E1 - E2	19 - 65	All other -----	40
		More than 1 reason, or disciplinary trouble-----	15
	17 - 18	All other -----	40
		More than 1 reason, or disciplinary trouble -----	15

\* Includes application to a special program which requires psychiatric clearance; difficulty getting along with others; nervous or emotional trouble; other reasons and never saw psychiatrist previously.

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